

## **ABSTRACT**

The present invention provides nanoprisms etched to generate triangular framework structures. These triangular nanoframes possess no strong surface plasmon bands in the ultraviolet or visible regions of the optical spectrum. By adding a mild  
5 reducing agent, metal ions remaining in solution can be reduced, resulting in metal plating and reformation of nanoprisms. The extent of the backfilling process can be controlled, allowing the formation of novel nanoprisms with nanopores. This back-filling process is accompanied by a regeneration of the surface plasmon bands in the UV-visible spectrum.